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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/806,587 | 03/23/2004 | Tsutomu Matsuzaki | 44471/298744 | 2230 |
| 23370 | 7590 | 12/15/2004 | EXAMINER | |
| JOHN S. PRATT, ESQ KILPATRICK STOCKTON, LLP 1100 PEACHTREE STREET ATLANTA, GA 30309 | | | CINTINS, IVARS C | |
| | | ART UNIT | PAPER NUMBER | |
| | | | 1724 | |

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | |
|------------------|--------------------|--|
| Application No. | S C | |
| 10/806,587 | MATSUZAKI, TSUTOMU | |
| Examiner | Art Unit | |
| Ivars C. Cintins | 1724 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/23/04 & 9/23/04.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: ____.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The terms “essentially consisting of” (claim 1, lines 3-4; claim 6, lines 3-4; and claim 9, line 3) and “essentially consists of” (claim 7, line 2) are somewhat indefinite as to the intended scope of the claims. Applicant is advised that an amendment changing “essentially consisting of” to --- consisting essentially of --- in claims 1, 6 and 9; and changing “essentially consists of” to --- consists essentially of --- in claim 7 would overcome this rejection.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Edlund et al. (U.S. Patent No. 6,376,113) or WO 00/17951. Each of the references discloses a cooling system for a fuel cell, which system includes a circulation pump, a fuel cell, a heat exchanger and a filter for removing degradation products from the coolant mixture (see Fig. 10 of Edlund et al.; and Fig. 1a of WO 00/17951). Applicant should note that since the filter and pump of each of these reference systems are located in a recirculation loop, this filter can be considered to be disposed upstream of the circulation pump, as required by claim 5.

Claims 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Grasso et al. (U.S. Patent No. 6,428,916). The reference discloses a cooling system for a fuel cell, which system

Art Unit: 1724

includes a circulation pump, a fuel cell, a heat exchanger and a gas injector (i.e. element 147) for removing degradation products from the coolant mixture (see Fig. 2). Applicant should note that the gas (i.e. nitrogen) intended to be injected into the system is not a structural limitation, and hence cannot be relied upon to patentably distinguish apparatus claim 7. It is well settled that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Applicant should further note that since the gas injector and pump of this reference system are located in a recirculation loop, this gas injector can be considered to be disposed upstream of the circulation pump, as required by claim 8.

Claims 2-4 would be allowed if amended to overcome the above rejection under 35 U.S.C. § 112, and if further rewritten in independent form to include all of the limitations of the base claim and any intervening claims because the references of record do not teach or fairly suggest a system of the type recited wherein the filter comprises ruthenium supported on activated carbon.

Claim 11 would also be allowed if amended to overcome the above rejection under 35 U.S.C. § 112, and if further rewritten in independent form to include all of the limitations of the base claim and any intervening claims because the references of record do not teach or fairly suggest a process of the type recited wherein an inert gas is injected into the coolant to purge oxidation reaction products from this coolant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (571) 272-1155. The

examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at (571) 272-1166.

The centralized facsimile number for the USPTO is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ivars Cintins
Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
December 12, 2004